Notice of Allowability	Application No.	Applicant(s)	
	10/785,058	SMARANDACHE, SANDU MARGARIT	
	Examiner	Art Unit	
	Thomas K. Pham	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *amendment filed 10/11/2006*.

2. ☒ The allowed claim(s) is/are *1-6,8,11-18,20,22,27-31,33,39 and 40*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Reasons for Allowance

1. Claims 1-6, 8, 14-18, 20, 22, 27-31, 33, 39 and 40 are allowed.

2. The following is an examiner's statement of reasons for allowance:

While Near (U.S. Patent Application Publication No. 2002/0050579) discloses an unregulated gun driver for a fluid dispenser that has an improved performance. The gun driver executes a stable, consistent and high quality fluid dispensing process independent of line voltage variations. After opening the dispensing gun, the gun driver supplies a current necessary to hold the dispensing gun open by overcoming the opposing force of a return spring. After reaches a peak current duration, the waveform generator substantially reduces the duty cycle of operation of a pulse-width-modulator (PWM). Reducing the duty cycle of the PWM also reduces the duty cycle of the power switch. Near does not disclose comparing a measured average current to an input value representing a desired average current; regulating the duty cycle of said pulse-width modulation signal based on the comparing; and other limitations related to these features in combination with the remaining elements and features of the claimed invention.

And Beatty (U.S. Patent No. 5,473,497) discloses a device for measuring energy delivered by a motor to a load is adapted to be connected to the motor. The device includes a line voltage sensing circuit for sensing the voltage across the power supply lines, a line current sensing circuit for sensing the current flowing through the motor and a pulse width modulator which modulated first electrical signal. The device also includes a first switch, responsive to the pulse width modulated first electrical signal which modulates an output of the line current sensing circuit to produce a power waveform to produce an output signal indicative of the energy delivered by the motor to the load. The device further includes a switch controller which

compares the output signal to a first reference signal to detect the existence of an underload condition. Beatty does not disclose comparing a measured average current to an input value representing a desired average current; regulating the duty cycle of said pulse-width modulation signal based on the comparing; wherein said regulating comprises: if said comparing indicates that said measured average current is less than said desired average current, increasing the additive factor by a first fixed amount; if said increasing the additive factor by a first fixed amount results in said additive factor exceeding a limit: zeroing said additive factor; and increasing said multiplicative factor by a second fixed amount; if said comparing indicates that said measured average current is greater than said desired average current, decreasing the additive factor by a first fixed amount; and if said decreasing the additive factor by a first fixed amount results in said additive factor falling below a limit: zeroing said additive factor; and decreasing said multiplicative factor by a second fixed amount; and other limitations related to these features in combination with the remaining elements and features of the claimed invention.

The prior art of record fails to teach or fairly suggest to one of ordinary skill in the art at the time of the invention, in conjunction with all the other claimed limitations, a method and system for providing a controlled current to an electronic device having all the claimed features of applicant's instant invention, specifically including: comparing a measured average current to an input value representing a desired average current; regulating the duty cycle of said pulse-width modulation signal based on the comparing; wherein said regulating comprises: if said comparing indicates that said measured average current is less than said desired average current, increasing the additive factor by a first fixed amount; if said increasing the additive factor by a first fixed amount results in said additive factor exceeding a limit: zeroing said additive factor;

and increasing said multiplicative factor by a second fixed amount; if said comparing indicates that said measured average current is greater than said desired average current, decreasing the additive factor by a first fixed amount; and if said decreasing the additive factor by a first fixed amount results in said additive factor falling below a limit: zeroing said additive factor; and decreasing said multiplicative factor by a second fixed amount; and

an error calculator for comparing said measured average current to an input value representing a desired average current and for calculating an error value based on said comparing, wherein: if said error value indicates that said measured average current is less than said desired average current, said duty cycle calculator increases the additive factor by a first fixed amount; if said additive factor exceeds a limit, said duty cycle calculator: zeroes said additive factor; and increases said multiplicative factor by a second fixed amount; if said error value indicates that said measured average current is greater than said desired average current, said duty cycle calculator decreases the additive factor by a first fixed amount; if said additive falls below a limit, said duty cycle calculator: zeroes said additive factor; and decreases said multiplicative factor by a second fixed amount, etc., as set forth in the claims.

Also, there is no motivation to combine the Near reference with the Beatty reference to meet these limitations. It is for these reasons that applicant's invention defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday to Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham
Patent Examiner

October 20, 2006